DOCUMENT RESUME

ED 240 349 CE 038 265

AUTHOR Connelly, Catherine; Saxton, Steven
TITLE How to Develop and Use Labor Market Information in Local Occupational Program Planning. A Guide for Local Planners.
INSTITUTION California Occupational Information Coordinating Committee, Sacramento.
PUB DATE Dec 82
NOTE 57p.
AVAILABLE FROM California Occupational Information Coordinating Committee, 830 K Street, Room 128, Sacramento, CA 95814.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Adult Vocational Education; Employment Projections; *Information Sources; *Information Utilization; *Job Training; Labor Force; Labor Market; *Labor Needs; Labor Supply; Needs Assessment; *Occupational Information; Planning; Program Design; *Program Development; Vocational Education

ABSTRACT

This guide provides planners with the essential tools and methods of labor market analysis for planning local occupational programs. An introduction discusses responsibility for development of labor market information (LMI) and guide development. Chapter 1 is a brief checklist of the steps involved in developing and using LMI in program planning. It also serves as a "road map" for chapters 2 through 5, which include more detailed descriptions of the process. Chapter 2 deals with creating a planning list of occupational titles from initial program ideas. The first two sections describe methods for obtaining ideas for new programs. Section 3 concerns translating the list into occupational titles. The first section of chapter 3 describes methods to refine the planning list to those occupations that warrant labor assessment. Section 2 discusses grouping occupations into potential programs. Chapter 4 describes the resources and methods necessary to assess the labor market potential of the occupational groupings. Three sections cover reviewing published LMI, gathering additional information, and reviewing findings with employer advisory committees. Chapter 5 briefly addresses program design. Appendixes include a glossary, bibliography, publication sources, resource organizations, and a list of supplements to facilitate use of this guide. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED240349

How to Develop and Use Labor Market Information in Local Occupational Program Planning

A Guide for Local Planners

published by the

California Occupational Information Coordinating Committee

December 1982

written by

Catherine Connelly **Steven Saxton**

CE038265

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

C. Cane

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

California Occupational Information Coordinating Committee

Cyrus A. Hubbard, Chair
Employment Development Department

Ferd Shaw, Vice-Chair
Department of Rehabilitation

Patricia Langlin
State Department of Education

Gus Guichard
Chancellor's Office of the
California Community Colleges

Anita Del Rio
California Employment and
Training Advisory Council

Lowell Denny
Council for Private Postsecondary
Educational Institutions

Claire (Stevens) Cave
Executive Director

The California Occupational Information Coordinating Committee was established in 1978 to promote the development and improvement of occupational information for use by planners, counselors, and students. The Committee serves to coordinate the information-producing capabilities of the participating organizations with the needs of California's residents for occupational information.

For additional copies of the Guide contact:

COICC
c/o Dept. of Rehabilitation
830 K Street Mall, Room 128
Sacramento, CA 95814
(916) 323-6544

COVER DESIGN—ALLEN B. CLARK

ACKNOWLEDGMENTS

As with any project of this nature, the development of this Guide would not have been possible without the efforts of many people. More individuals have contributed to this Guide than can be specifically acknowledged. This expression of appreciation is made to all, whether named or not. The following people should be recognized for their significant contributions to the success of this project.

First and foremost, the Committee would like to thank the two Employment Development Department staff who produced this Guide, Cathy Connelly of the Education/Industrial Liaison Office and Steve Saxton of the Employment Data and Research Division. They worked closely with all of the COICC members and in particular with Mrs. Patricia Langlin, State Vocational Education Director, and Mr. Gus Guichard, Executive Vice-Chancellor of California's Community Colleges, who personally reviewed guidelines and assisted in the initial development of this Guide. This involvement was precipitated by the recognized need for assistance to occupational program planners in the use of labor market information.

Many Employment Development Department staff helped to make this guide possible. We want to acknowledge the ongoing technical support given by Larry Clark, Phil Hardiman, Ken King, and the Occupational Information Group staff of the Employment Data and Research Division (ED&R). Expert clerical support was provided by Kay Weaver and Barbara Young of ED&R and the Office Services Group of the Business Services Division. Many thanks for their fine work.

We would also like to express our appreciation to the dozens of occupational program planners throughout the state who provided input during the development of the Guide. Their willingness to take time out from busy schedules to be interviewed and to comment on the Guide proved invaluable to project staff. Our special thanks go out to Art Smith of the San Bernardino County Office of Education for his early guidance on this project and to Grace King of the North Orange County Regional Occupational program for her extra efforts to make the Guide successful.

Claire (Stevens) Cave
Executive Director, COICC

PREFACE

At the start of this project the assigned task seemed relatively easy—to write a simple guide which identified sources of labor market information and how they fit into the occupational program planning process. However, once we began, we were faced with obstacles ranging from the complexity of the overall planning process to the incompatibility of data produced with data needed.

We observed that because the various sources of information are difficult to use, appear inconsistent, or are unknown to planners, programs are developed without much consideration of objective labor market information (LMI). In a few instances, planners were able, through diligence and perserverance, to devise methods for interpreting available LMI or developing their own.

One effective approach to the difficulties faced by occupational training providers is cooperative planning. We observed two noteworthy examples which deserve special mention. The Northeastern California Higher Education Council brings together the occupational education deans from the region's nine community colleges to cooperatively decide upon occupational program offerings at the participating institutions. The Orange County Technology Exchange Center was established to provide a more direct link between employers and planners within all levels of vocational education in Orange County. Both organizations strive to share planning information among participating institutions on a regional basis. These organizations are attempting to better serve the needs of their communities by coordinating program offerings of the institutions and cooperating with other public agencies. We feel that these kinds of efforts will lead to more efficient use of limited resources and more effective program development.

We have reached three conclusions from the work that went into this Guide. First, to be useful to training planners, existing LMI products need to be maintained in at least as much detail as is presently available. This means that new, permanent funding sources must be sought. Second, new, cost effective methods of obtaining better information on placement rates of program completers must be developed. Information about whether completers obtained employment, the type of employment obtained, and the employer's evaluation of the competency of the completers would provide invaluable information regarding actual demand for the skills taught as well as the quality of the program. All of the planners interviewed as part of this project affirmed that quality placement data would have great value for the planning process. Third, the exchange of labor market information among planners, instructors, and guidance counselors must be improved. Information which is useful to the planner can also be useful in career exploration and general education curriculum development. Students who have been informed of the range of occupations and their labor market potential will express career choices which more closely reflect labor market needs. In addition, when basic academic preparation reflects the changing needs of the workplace, students will be better prepared to enter the labor market.

In closing, we hope that this guide is the beginning of an exchange of ideas and information among agencies and individuals involved in producing and using LMI. We hope that you, the reader, will continue this exchange and will share your comments on this Guide with your colleagues and the COICC.

TABLE OF CONTENTS

ACKNOWLEDGMENTS 3

PREFACE 4

INTRODUCTION 7

CHAPTER ONE: CHECKLIST—HOW TO DEVELOP AND USE LABOR MARKET INFORMATION IN LOCAL OCCUPATIONAL PROGRAM PLANNING 15

CHAPTER TWO: LIST CREATION 23

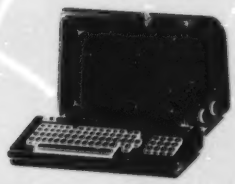
CHAPTER THREE: LIST REFINEMENT 33

CHAPTER FOUR: LABOR MARKET ASSESSMENT 41

CHAPTER FIVE: PROGRAM DESIGN 47

appendices 51

4-B



INTRODUCTION

WHY THE GUIDE WAS DEVELOPED 9

WHO IS RESPONSIBLE FOR LABOR MARKET INFORMATION? 9

WHAT IS LABOR MARKET INFORMATION? 10

HOW THE GUIDE WAS DEVELOPED 11

A NOTE TO PLANNERS 13

INTRODUCTION

WHY THE GUIDE WAS DEVELOPED

In these times of high unemployment and shrinking public revenue, there is a growing concern about the use of resources for employment training and vocational education. Legislators, educators, and the public-at-large are demanding that occupational programs be closely aligned to the needs of the employer community, that is, occupational training should lead to a job.

Although much recent attention has been given to this issue, it is not a new concern. As early as 1914, Dr. Edwin R. Snyder, California's first Commissioner of Industrial and Vocational Education, expressed concern about the effectiveness of vocational education. Among several precedent-setting suggestions made to the State Board of Education, Dr. Snyder proposed that occupational surveys be conducted to determine training needs.[1]

Subsequent federal and state legislation has mandated that occupational programs reflect labor market demand for the skills to be taught. Attempts to meet this mandate have made planners acutely aware that accurately forecasting the supply of and the demand for labor is a difficult task. Planners have found that information available from federal and state agencies may not completely meet their local needs. Their experience has shown that gathering pertinent information through research and surveys can be difficult and expensive and the resulting information may be unreliable. Some planners have attempted to solve these problems by contracting with private consultants or other institutions for the necessary analysis. However, today's reduced budgets may severely limit the ability to contract for services. As the emphasis on meeting labor demand grows and as employment training and vocational education budgets shrink, it will become even more important for planners to take full advantage of existing labor market information and learn to develop any additional information needed for local use.

Recognizing the inherent difficulties involved in assuring the pertinence of vocational training to the labor market, the California Occupational Information Coordinating Committee (COICC) decided in the spring of 1982 to produce a guide for occupational program planners on how to develop and use labor market information (LMI). This Guide is intended to help bridge the gap between the goal of vocational education to "fit individuals for gainful employment . . ." [2] and the realities of the labor market which is expected to provide the gainful employment. This Guide will provide the occupational program planner with simple suggestions on how to incorporate labor market information into the planning process at minimum cost.[3] While the Guide will not attempt to deal with all of the complexities of economic analysis, it will provide the planner with the essential tools and methods of labor market analysis for planning occupational programs.

WHO IS RESPONSIBLE FOR LABOR MARKET INFORMATION?

Responsibility for the development of LMI is shared among federal, state, and local entities. At the federal level, primary responsibility rests with the U.S. Department of Labor (DOL). DOL produces a variety of statistical and analytical information on employment trends nationwide and for selected geographical areas. This information is used in setting national priorities and in distributing federal funds. In addition, DOL provides much of the funding for research and development of state and local LMI products.

Other federal agencies have a less direct role in the production of LMI, but nevertheless produce information which can be vital to the program planner. The Census, conducted by the U.S. Department of Commerce, is an invaluable snapshot of the nation's employment patterns and trends. The Department of Commerce is also responsible for conducting the Current Population Survey and for maintaining some of the industry and occupation classification systems in use today.

The role of another federal organization, the National Occupational Information Coordinating Committee (NOICC), has grown steadily since its inception in 1976. The NOICC is comprised of representatives from the U.S. Departments of Labor, Education, Defense, and Commerce. This committee was established to coordinate the development of an occupational information system, although its interests now

[1] Smith, Wesley P.—*A History of Vocational Education in California 1900-1975*, California State Department of Education, 1979, p. 9.

[2] Vocational Education Act of 1963

[3] For a general description of the entire planning process, see *Guidelines for Occupational Program Planning*.

include promoting the improvement of LMI outside the occupational information area.

Working cooperatively with the Department of Labor, the Employment Security agency in each state (the Employment Development Department in California) conducts a state Labor Market Information Program. The Employment Data and Research Division (ED&R) of the Employment Development Department (EDD) operates this program for California. ED&R has labor market analysts assigned to each labor market area within the state who research, analyze, publish, and disseminate economic and occupational information for the State and all of its labor market areas. These analysts can be a valuable source of information and technical assistance for local program planners. Frequently, additional information or special studies are available for individual labor market areas. The labor market analyst will often be able to provide or interpret this information for program planners. For information on how to contact your local analyst, see Appendix D.

At the local level, the development of LMI is even more fragmented. Information is often produced by organizations such as city planning departments, chambers of commerce, or local education agencies, for in-house use, and is not known to other interested parties. Education and employment training organizations should attempt to seek out and take advantage of such sources.

Each school or training institution considers, whether formally or informally, some labor market factors in making program choices. Some organizations contract with schools, ED&R, or consulting firms for labor market analysis. Others hire an in-house labor market analyst to gather and develop information as needed for program operations. Still others rely upon the intuition of administrative and instructional staff to make program decisions. Using this Guide will not supplant these practices, but will help refine the planning process and assure that pertinent information has been considered.

The responsibility placed upon the local program planner is to be aware of all information available and how it can be used. This helps assure that the maximum effort has been made to match programs with labor market needs and avoids duplication of effort in securing needed information, as well as duplication of program offerings.

If possible, each institution should designate one individual to be the labor market information resource person for program operations. By centralizing this role in one individual, the institution will be facilitating the systematic use of LMI in program operations. This person may be the administrator, planner, or staff analyst whose responsibilities could include:

- identifying sources of existing LMI,
- compiling and assessing existing information,
- establishing information-sharing networks,
- setting priorities for developing local LMI, and
- promoting the awareness and use of LMI among staff.

It should be stressed that cooperation is the secret to effective development and use of labor market information. As resources shrink at all levels of government, it is unreasonable to expect any single agency to produce all of the information needed for program planning. Cooperative efforts among local and state agencies and their staff will maximize the effective use of available resources.

WHAT IS LABOR MARKET INFORMATION?

Before proceeding, it is necessary to discuss what is meant by labor market information within the context of this Guide. Simply put, it is information about the operation of the market for labor—where labor skills are exchanged for wages. This exchange usually occurs in a specific geographic location, referred to as the labor market area, which can vary in size, but is generally defined as that area in which workers normally seek and find employment and where employers normally recruit and hire workers. Labor market information describes this interaction and the conditions under which it occurs.

More specifically, labor market information describes and *interprets* the functioning of a labor market. The key elements which constitute that labor market are its labor resources (workers and trainees) and employment opportunities (jobs). Labor market information, therefore, is general information and *aggregate* statistics about jobs, either filled or vacant, and workers, either employed or not employed. LMI is distinguished from "Job Search Information" and "Placement Information". Hence, it does not tell a jobseeker *how* to search for work; nor

does it contain information on individual jobseekers, individual firms, or specific job openings.

There are three major components of LMI—economic, or labor force information (that is, the number of people employed and unemployed); occupational information (descriptions of occupations); and demographic information about characteristics of the general population related to employment and workers. It can be qualitative (analytical and interpretive) as well as quantitative (statistical) with respect to labor supply, labor demand, and career exploration.

LMI may be tied to a specific geographical area or, in the case of certain occupations, may describe sources of labor supply and demand which are statewide or nationwide and not contained within a well-defined labor market area. Generally, a labor market area is an area wherein workers may change jobs without changing residence. The U.S. Department of Labor is responsible for identifying official Labor Market Areas based on commute patterns developed through the decennial census. In California these designated areas are defined along county boundaries. Large counties or economically integrated groups of counties are referred to as Standard Metropolitan Statistical Areas (SMSA). Published LMI in California can be obtained for counties and SMSA. The National Occupational Information Coordinating Committee has encouraged the use of these designated areas in planning education and training programs. These defined Labor Market Areas provide a good starting point for the planner. In the majority of cases, these areas represent the most reasonable area for program graduates to seek work. However, it may not be reasonable to include all of a Labor Market Area in planning for a particular program—or to limit the scope of program analysis to that area. Planners may need to begin with the designated area in their analysis and broaden or narrow the analysis based on the particular characteristics of the program being considered. In reality, labor markets are seldom coterminous with geopolitical boundaries such as school districts or cities. Therefore, the planner should attempt to take existing labor market information and where necessary adapt it to a more appropriate geographic area.

As part of the assessment of labor market potential for an occupational program (discussed on page 43), the planner will need to determine what the labor market area is for occupational program graduates. This area may vary for different programs, but basically it is the geographical area within which it is *reasonable* for graduates to seek work. Obviously, this area will be limited by the normal commute patterns and by the economic benefits offered to individuals in that occupation. For example, it is entirely possible that a gunsmith would have a national labor market and have to be willing to move long distances to find employment. However, it may be unreasonable to expect a graduate from a welding program to commute an hour for entry level wages. (One caution: many training institutions are preparing people for "entry-level" jobs which presumably have career ladder opportunities. It may be advantageous for a graduate to consider jobs which at first are marginal in terms of the commute-wage trade-off, with the hope that job promotions and subsequent wage increases would be forthcoming, thus making the initial sacrifice worthwhile.) The planner will want to decide upon a reasonable labor market area for each program under consideration and use it in determining which information to include in the analysis.

HOW THE GUIDE WAS DEVELOPED

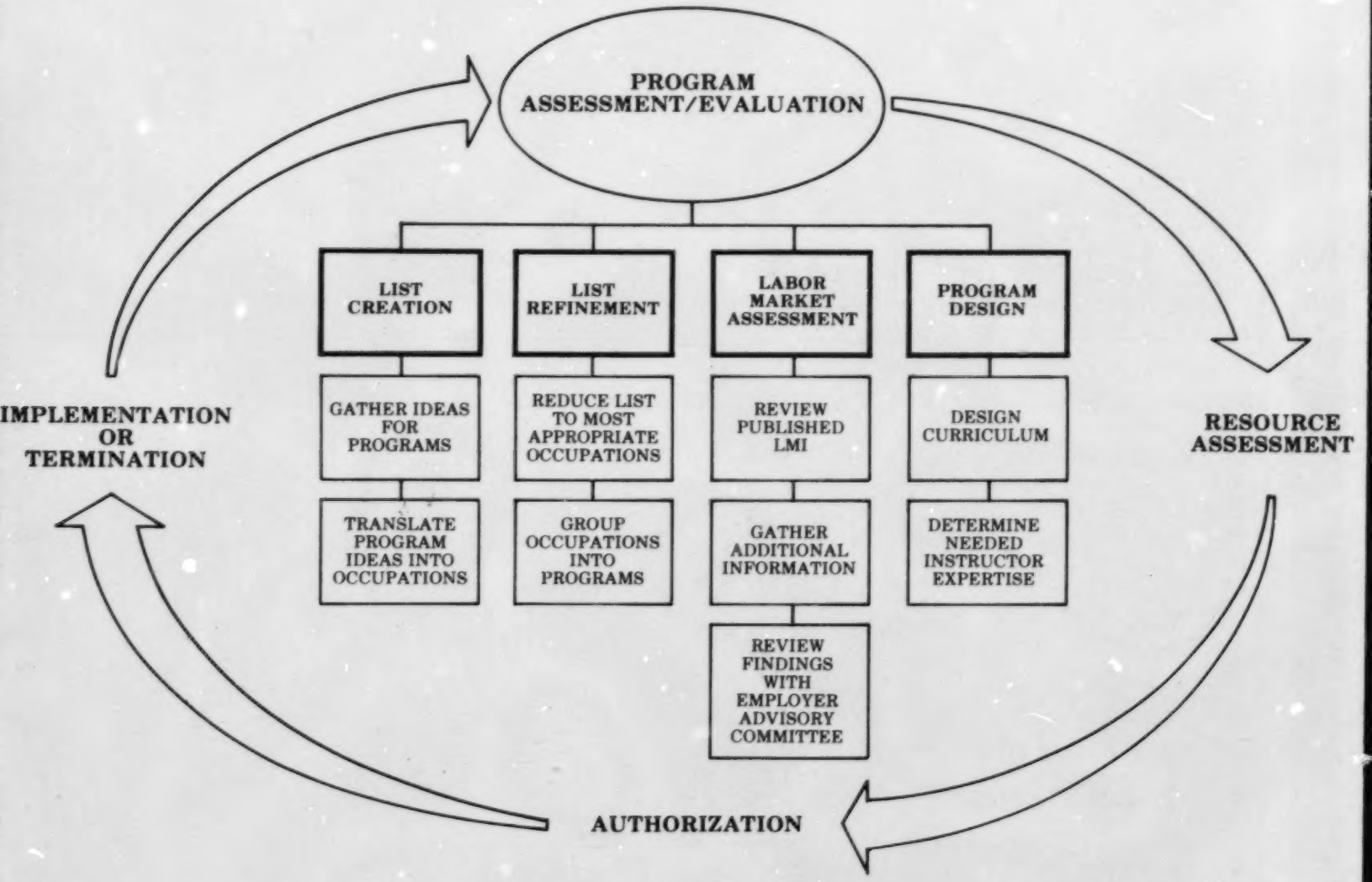
In order to present information on how to develop and use LMI in program planning, it was necessary to isolate the components of the planning process in which LMI is useful or essential. A schematic of the entire program operation cycle was designed and is displayed on page 12. In reality, the process is seldom so rigid as that depicted in the schematic, but the steps displayed are important in relating occupational programs to labor market needs. The intent is not to prescribe a specific sequence of steps for occupational program planners, but to provide a logical context within which LMI can be discussed in this Guide and applied to the planning process.

The schematic depicts the program operation cycle as occurring in four phases. Those phases include:

- PROGRAM ASSESSMENT/EVALUATION
- RESOURCE ASSESSMENT
- AUTHORIZATION
- IMPLEMENTATION/TERMINATION

LMI plays an integral role only in the first phase, which includes the assessment of

THE USE OF LABOR MARKET INFORMATION IN THE PROGRAM OPERATION CYCLE



potential programs and the evaluation of ongoing programs. Therefore, this Guide will discuss the development and use of LMI within this phase only. Methods will be presented which describe how LMI can be incorporated into the four major activities within the PROGRAM ASSESSMENT/EVALUATION phase—list creation, list refinement, labor market assessment, and program design. The idea is to create a comprehensive list of occupations that could possibly be related to an initial program idea; pare that list down to significant component skills by successively weeding out occupations which are not appropriate to the institution's training objectives; assess the labor market potential of the remaining occupations; and ultimately develop or evaluate programs based on occupations having similar characteristics or skills and employment opportunities. The resulting benefits to planners are: 1) easier use of available information for labor market analysis, 2) an opportunity to determine the full placement potential for program completers, and 3) a greater assurance that programs offered conform to both labor market needs and community interests.

The development of this Guide included a review of current practices in labor market analysis. Information was gathered by interviewing a sample of occupational training providers to determine how they use labor market analysis in their planning process. Various types of training sites were selected, including community colleges, regional occupational programs, adult high schools, community-based organizations, and cooperative planning groups. Each site participating in the interview was asked to describe the types and sources of LMI used in program planning, as well as how the information was analyzed. The interviews provided input for the guidelines presented in this Guide.

This Guide begins with a brief checklist of the steps involved in developing and using LMI in program planning. The checklist can be used by planners to keep track of their progress as they assess the labor market potential of an occupational training program. The checklist also serves as a "road map" for Chapters Two through Five, which include more detailed descriptions of the process. Appendices provide information about resources available to the planner and how to obtain them, along with definitions of terms and acronymns used in the Guide. Supplements are also available which facilitate the use of the methods described in the Guide. (See Appendix E for the information about the Supplements and how to obtain them.) Recognizing that numerous publications and resources are available, references in the Guide have been limited to those resources judged to be most useful. Many of the recommended publications are updated frequently; the planner should be cautious to use only the most current information. (All referenced publications in the Guide are listed in Appendix B)

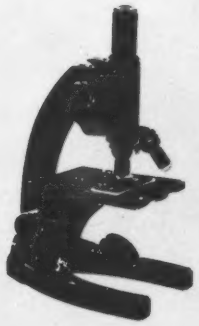
A NOTE TO PLANNERS

It is important to keep in mind that it is not possible to perfectly forecast future labor market needs. Industrial and commercial applications of rapidly advancing technologies, along with changing consumer preferences, are only two of many factors which are difficult to predict, but which can affect the labor market. This Guide cannot eliminate all of the difficulties; it can only suggest methods for accessing and using that information which should be the foundation for making sound program decisions. It contains no magic formula—but using the Guide will help you locate and organize the information you will need for program assessment.

The processes described in this Guide will be easier to understand if you work through the steps using the recommended resources. We suggest that you read the Guide through once to get a sense of how and why the process works. Then, the second time through, use the publications referenced in the Guide to follow a program suggestion through the entire process. Remember to call upon the resource organizations identified in appendix D if you have any questions.

If you cannot do every step recommended in the Guide, DO NOT give up! Perform the steps you can and become familiar with the suggested resources. You will benefit from identifying and using resources you have not used in the past. As with any new skill, you will not be expert at first. By proceeding in this manner you will begin to acquire expertise in developing and using labor market information in the planning process.

8.B



CHAPTER ONE – CHECKLIST

HOW TO DEVELOP AND USE
LABOR MARKET INFORMATION IN
LOCAL OCCUPATIONAL PROGRAM PLANNING

CHECKLIST—How to Develop and Use Labor Market Information in Local Occupational Program Planning

ACTIVITY: LIST CREATION—Creating a Comprehensive List of Occupations from Program Ideas

STEPS	RESOURCES	RESULTS
☐ 1. Assess community interests/needs (Ref. to page 25)	• *Needs Assessment Handbook* • *Annual Planning Information/Annual Newsletter* • *Manpower Information for Affirmative Action Programs* • Suggestions, inquiries, and ideas from community, faculty, employers, etc. • _____ • _____	A "planning list" of program ideas based on community interests/needs.
2. Review industry/occupational trends (Ref. to page 26)		
☐ - at the national level	• *Wall Street Journal* • *Time/Newsweek* • *Business Week/Forbes/Fortune* • Vocational Education Newsletters • *Occupational Outlook Handbook* • *Occupational Outlook Quarterly* • _____ • _____	A "planning list" of program ideas based on: • An awareness of national economic and technological developments.
☐ - at the state level	• *California Business* • *California Occupational Guides* • *Annual Planning Information/Annual Newsletter*—California • *Projections of Employment and Occupations 1980-85*—California • Security Pacific Bank reports • _____ • _____	• An awareness of trends in California.
☐ - at the local level	• Newspapers • *Annual Planning Information/Annual Newsletter*—local area • *Projections of Employment by Industry and Occupation, 1980-85*—local area • _____ • _____	• An awareness of local job opportunities and occupational growth.

CHECKLIST—How to Develop and Use Labor Market Information in Local Occupational Program Planning

ACTIVITY: LIST CREATION—Creating a Comprehensive List of Occupations from Program Ideas (Cont.)

STEPS	RESOURCES	RESULTS
☐ 3. Group together similar ideas/suggestions. (Ref. to page 30)		An organized list of ideas/suggestions in manageable subject matter groups.
☐ 4. Choose an appropriate classification system. (Ref. to page 31)	• *Handbook VI* (USOE) • *Guide for Occupational Exploration* (GOE) • *Standard Occupational Classification* (SOC) • *Census Occupational Classification System* • *Classification of Instructional Programs* (CIP) • *Occupational Employment Statistics* (OES) • _____ • _____	A classification system through which the grouped ideas/suggestions can be translated to DOT occupations.
☐ 5. Link groups of similar ideas/suggestions to ***all*** related categories within chosen classification system. (Ref. to page 31)		A comprehensive list of all pertinent classification categories.
☐ 6. Identify DOT occupations related to the categories within the chosen classification system. (Refer to page 31)	• GOE • SOC • Guide Supplements • _____ • _____ • _____	A comprehensive list of all DOT occupations pertinent to the classification categories.

CHECKLIST—How to Develop and Use labor Market Information in Local Occupational Program Planning

ACTIVITY: LIST REFINEMENT—Refining the List to the Most Appropriate Occupations

STEPS	RESOURCES	RESULTS
☐ 1. Cut list down based on employment size. (Ref. to page 35)	• Guide Supplements • _____ • _____	A list of pertinent occupations with significant employment in California.
☐ 2. Cut list by eliminating those occupations inappropriate to the institution's training objectives. (Ref. to page 35)	• Guide Supplements • DOT Characteristics • _____ • _____	Further refined lists—fewer occupations to analyze!
☐ 3. Analyze the essential skills, knowledge, and aptitudes needed for each occupation to determine similarities for program grouping and eliminate inappropriate occupations. (Ref. to page 38)	• DOT definitions and characteristics • *California Occupational Guides* • *Occupational Outlook Handbook* • _____ • _____	A final refined list grouped into programs ready for labor market analysis.

CHECKLIST—How to Develop and Use labor Market Information in Local Occupational Program Planning

ACTIVITY: LABOR MARKET ASSESSMENT—Assessing the Labor Market Potential of Selected Program Groupings

STEPS	RESOURCES	RESULTS
☐ 1. Review job outlook information in publications organized by the DOT classification system. (Ref. to page 43)	• *Occupational Outlook Handbook* • *California Occupational Guides* • *Annual Planning Information/Annual Newsletter* • *Labor Supply and Demand* • _____ • _____	Information relevant to the labor market opportunities for the subject occupations.
☐ 2. Review employment projections for California and local area. (Ref. to page 43)	• *Projections of Employment by Industry and Occupation 1980-85*—California and local area • Guide Supplement • _____ • _____	An indication of local occupational trends and a comparison of state and local industry/occupation patterns.
☐ 3. Check job openings. (Refer to page 44)	• Local EDD • Private employment agencies • Classified Ads • _____ • _____	An indication of immediate local demand for the occupations.
☐ 4. Check placement rate and completions information from similar local programs. For evaluation of existing programs, use information on your own completers at this step. (Ref. to page 44)	• Follow-up records of other training organizations • _____ • _____	Placement statistics offer an effective proxy measure of supply/demand conditions. Completions indicate the volume of trainees entering the labor market.

19

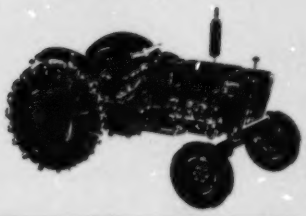
ACTIVITY: LABOR MARKET ASSESSMENT—Assessing the Labor Market Potential of Selected Program Groupings (Cont.)

STEPS	RESOURCES	RESULTS
5. Survey employers (Ref. to page 44)		
☐ - Identify industries which employ the subject occupations.	• *Occupational Outlook Handbook* • *California Occupational Guides* • *Conversion Table, DOT Industry Designations—Standard Industrial Classification* • *Projections of Employment by Industry and Occupation* • ED&R Labor Market Analyst	A list of industries for each program grouping of occupations.
☐ - Identify local employers within the industries employing the subject occupations.	• SIC to Yellow Pages Supplement • Surveyed employers • Staff contacts with employers • _____ • _____	A list of local companies which potentially employ the subject occupations.
☐ - Conduct survey.	• *Needs Assessment Handbook* • _____ • _____	An indication of potential labor market demand and validation of specific skills, knowledge, and aptitudes required for the occupation.
6. Review findings with Employer Advisory Committee. (Ref. to page 45)		
☐ - Establish the committee.	• List of local companies developed in Step 5 above. • _____ • _____	Representative group of employers to serve on the advisory committee.
☐ - Present findings to the committee.	• Program analysis file developed for each group of related occupations. • _____ • _____	Tests the results of the analysis against local realities.

CHECKLIST—How to Develop and Use Labor Market Information in Local Occupational Program Planning

ACTIVITY: PROGRAM DESIGN—Designing the Program Content

STEPS	RESOURCES	RESULTS
☐ 1. Develop curriculum. (Ref. to page 49)	• Descriptive information gathered during the analysis process from: — *DOT* — *Occupational Outlook Handbook* — *California Occupational Guides* — Employer Advisory Committee — Surveys • Task analyses: — *Handbook for Analyzing Jobs* — *Task Analysis Inventories*, Series I, II, and III — *Task Analysis Process Manual*	Program curriculum which meets the needs of the employer community.



CHAPTER TWO—LIST CREATION

SECTION ONE—GATHERING IDEAS FOR POTENTIAL PROGRAMS BY ASSESSING THE NEEDS AND INTERESTS IN THE COMMUNITY 25

SECTION TWO—GATHERING IDEAS FOR POTENTIAL PROGRAMS BY REVIEWING EMPLOYMENT TRENDS 26

SECTION THREE—TRANSLATING THE "PLANNING LIST" INTO OCCUPATIONAL TITLES 29

CHAPTER TWO: LIST CREATION

This chapter deals with creating a "planning list" of occupational titles from initial program ideas. The first two sections describe the methods for obtaining ideas for new programs. If you are only interested in evaluating an existing program, proceed to the third section, TRANSLATING THE "PLANNING LIST" INTO OCCUPATIONAL TITLES.

In determining what new programs might be viable, the planner's initial task is to create a "planning list" of program ideas. Typically, ideas for new programs come from board members, potential instructors, placement staff, employers, counseling staff, advisory committees, and so on. This input is extremely valuable and should be encouraged as it represents the views and inside information of interested parties. However, other, more systematic methods of identifying program possibilities for further analysis should also be considered. A systematic approach will provide a comprehensive view of both the needs and interests as well as the growth industries and occupations in the community. Two types of information should be thought of as potential sources of program ideas:

- interests and needs of those in the community (students, service area population, and employers) and,
- industry and occupational employment trends.

SECTION ONE:
GATHERING IDEAS FOR POTENTIAL PROGRAMS BY ASSESSING THE NEEDS AND INTERESTS IN THE COMMUNITY

The first portion of the "planning list" can be developed by assessing the needs and interests of members of the community. An interest or needs assessment "will illuminate preferences and perceived needs—which, if one believes that the individual is his or her best spokesperson and advocate, may actually represent the optimal information for aligning an institution with the community's priorities."[1] Assessment can be made through formal surveys and/or keeping track of informal suggestions or requests. Programs which address the community's interests and/or needs will generate program support in terms of steady enrollment, job placement after completion, assistance in curriculum development from employers, and contributions of equipment and community classroom facilities. In addition, a systematic assessment assures a more equitable provision of services. This avoids a situation in which vocal community members are served disproportionately.

The decision to conduct a formal survey of the general public, student population, or employer community will depend on several factors, not the least of which are cost and available resources. The *Needs Assessment Handbook* published by the Community Colleges Chancellor's Office offers a comprehensive treatment of survey methodology and is recommended for those planners wishing to conduct a needs assessment.

If a needs assessment is to be conducted, it may be helpful to know the composition and the economics of the community. Such demographic information is available in two publications produced by Employment Data and Research.

- *Annual Planning Information/Annual Newsletter* (API) reports are published for the state as a whole, each SMSA, and the balance of the counties in California. The API is a comprehensive report on trends in a labor market area. Planners interested in demographic information should read the "Social and Economic Data" section for a description of key characteristics of groups in the population.
- *Manpower Information for Affirmative Action Programs* is also published for the state as a whole, each SMSA, and the balance of the counties in California. Census data from 1970 and 1980 are displayed for the population grouped by race, sex, age, ethnic group, and occupation group.

[1] McIntyre, M. Charles and Franz, Jennifer D. *Needs Assessment Handbook*, Chancellor's Office, California Community Colleges, 1980, p. 5.

Additional demographic information can be obtained by calling the ED&R labor market analyst for the appropriate area or by contacting the State Census Data Center in the California Department of Finance.

Since many new programs are initiated by suggestions or recommendations from faculty, students, or employers, it is advisable for planners to develop a system to keep track of these ideas, in order to assure that they are not inadvertantly overlooked. Suggestion boxes in student lunch rooms, structured proposal forms for faculty or employer advisory committee members to use for submitting suggestions, and tally sheets for clerical staff to record telephone inquiries or suggestions are all relatively simple ways to systematically collect ideas for review.

SECTION TWO:
GATHERING IDEAS FOR POTENTIAL PROGRAMS BY REVIEWING EMPLOYMENT TRENDS

Ideas for the "planning list" can also be developed by keeping attuned to labor market developments. Concurrently with assessing community needs and keeping track of informal suggestions, planners should be reviewing employment trends—at the national and state levels as well as at the local level. Emerging technologies may be recognized nationally before they affect occupations on a local level. This "advance warning" will help keep planners alert to the changing needs in the economy.

Resources abound which provide employment trend information on the national, state, and local levels. To identify high growth industries and high demand occupations, planners should review publications such as newspapers, news and business magazines, trade and professional journals, and government publications. Trend information may generate ideas for programs outside normal course offerings and the expertise of existing staff. According to many of the local planners interviewed for this Guide, understanding trends made it easier for them to interpret expressed community interests and keep programs on the forefront of labor market needs.

Reviewing the vast amount of written material relevant to labor market information is a time-consuming, but beneficial endeavor for the program planner. To help sort through the available resources, planners should obtain a copy of the *Guide to the Use of Labor Market Publications*. The Guide describes various available publications and how to get copies. Knowing what information is available and how to get it is half the battle. The other half is developing expertise in using it.

While most of the publications cited in the above Guide will be used by planners for reference purposes, three are recommended for thorough reading. These particular resources can provide the groundwork for understanding the dynamic nature of labor markets. Planners should set aside time to become familiar with the content and organization of the following publications:

- *Occupational Outlook Quarterly*—highlights new occupations and training opportunities found throughout the nation. This is a good resource for keeping up with recent occupational developments.
- *Annual Planning Information/Annual Newsletter*—in addition to providing the demographic information described earlier, the API discusses industry trends and the occupational outlook. These are available for California as a whole, each SMSA, and each county.
- *Projections of Employment by Industry and Occupation*—identifies occupations that occur within particular industries and gives estimates of the numbers of jobs by occupation and industry for 1980 and 1985. The data in this publication can be used as indicators of growth trends, especially in occupations with large employment. This publication is available for California as a whole, and for many of the state's labor market areas.

With the added perspective provided by the above resources, planners can more easily assess locally pertinent information regarding industry and occupational trends. This local information will provide the planner with valuable clues regarding potentially relevant programs. The planners consulted during the development of this guide indicated that local newspapers, economic development reports, and business/trade association meetings or newsletters provided them with timely

information regarding the expansion, as well as the decline, of industry within the community. Planners considered this local trend information vital to the identification of potential programs. This information also provides essential input in the evaluation of existing programs.

The publications *Occupational Employment in Manufacturing, Occupational Employment in Selected Nonmanufacturing Industries,* and *Occupational Employment in Trade Industries* provide staffing patterns for specific industries. This information is based on the Occupational Employment Statistics survey of nearly 60,000 California employers. In cases where the planner is aware of a firm moving into the labor market area, and can find out what kind of business it is, the reports can provide an indication of the occupations likely to be needed.

The publication, *Projections of Employment by Industry and Occupation* is also an important source of ideas for the "planning list". Data in the report are provided, for each listed occupation, on the total number of job opportunities expected between 1980 and 1985 and the percentage change in employment during that period. It is possible to create two lists of occupations (one ranked according to number of employment opportunities and the other ranked by percentage change in employment) which will provide planners with a growth profile of local occupational demand. When these lists are analyzed together, specific occupations may surface as having many job opportunities *and* rapid growth. These occupations warrant analysis for potential occupational programs and should be added to the "planning list". Therefore, the following steps are provided to help planners focus on and organize the data in the *Projections of Employment* report in a way that will provide these ideas. (Data in examples 1, 2, and 3 have been drawn from the current statewide *Projections of Employment* report and are intended to be used to illustrate the process, not as recommendations for potential programs.)

LIST JOB OPPORTUNITIES

Using Table 3.5[1] in the Projections report, make a list of occupations (exclude the summary occupations, e.g., lines 1, 2, 3, 15, 28, etc.) in descending order according to the number of Total Job Opportunities (third column of numbers).

EXAMPLE 1

LIST OF JOB OPPORTUNITIES BY OCCUPATION RANKED IN DESCENDING ORDER CALIFORNIA 1980-1985 Updated December 1982

Title	*Job Opportunities*	*Rank*
Other Mgrs, Administrators	259116	1
Sales Workers, Nec[2]	202539	2
Secretaries, Other	157228	3
Bookkeepers, Accounting Clerks	91329	4
Farm Laborers, Wage Wrkrs	73764	5
Misc Clerical Workers, Nec[2]	68556	6
Cooks, Exec Private	65230	7
Waiters, Waitresses	64538	8
Janitors and Sextons	64508	9
Gardener, Groundskeeper, Exc Farm	60486	10
Typists	54350	11
Accountants	53663	12
Cashiers	52825	13
Real Estate Agents, Brokers	51514	14
Assemblers	50400	15
.....	.....	...
.....	.....	...

[1] For the Anaheim-Santa Ana-Garden Grove and San Diego SMSAs and the Mount Shasta and Sutter Buttes regions, use Table 4.

[2] not elsewhere classified

LIST PERCENT CHANGE

Using the same table, make a list of occupations (again, exclude the summary occupations) in descending order according to the size of Percent Change in Employment[1] (fifth column of numbers).

NOTE: While the process of ranking the occupations from the *Projections of Employment* report can be done by individual planners, pre-ranked lists of Job Opportunities by Occupation and Percent Change in Employment may be requested from ED&R local labor market analysts. (See Appendix D.)

EXAMPLE 2

LIST OF PERCENT CHANGE IN EMPLOYMENT BY OCCUPATION RANKED IN DESCENDING ORDER CALIFORNIA 1980-1985 Updated December 1982

Title	*Percent Change*	*Rank*
Secretaries, Legal	38.62	1
Data Processing Mach Repairers	37.43	2
Dental Hygienists	35.77	3
Optometrists	33.50	4
Chiropractors	32.01	5
Dining Room Attendants	29.82	6
Architects	29.45	7
Sign Painters and Letterers	28.09	8
Guards	27.81	9
Radio, Television Repairers	27.44	10
Radiologic Technol, Tech	27.41	11
Auctioneers	27.15	12
Cooks, Exc Private	27.10	13
Dancers	26.83	14
Bank, Financial Managers	26.65	15
.....	.....	...
.....	.....	...

RANK AND COMBINE LISTS

Assign a score to each occupation in each list according to rank. (As shown in the third column of Examples 1 and 2) Locate each occupation on both lists; add together the scores for each occupation. Create a third list, ranked by the combined score of each occupation. The lowest combined score should be first; the highest combined score last.

For example, Cooks, Exc. Private ranked 7th on the Job Opportunities list (Example 1) and ranked 13th on the Percent Change list (Example 2). Adding the two ranks together results in a combined score of 20. That gives Cooks, Exc. Private the lowest combined score which means it ranks first on the "combined" list (see EXAMPLE 3).

EXAMPLE 3

LIST OF COMBINED SCORES RANKED IN ASCENDING ORDER

Title	*Combined Score*	*Rank*
Cooks, Exc. Private	20	1
Guards	26	2
Bank, Financial Mgrs.	35	3
Secretaries, Legal	47	4
Accountants	48	5
Lawyers	57	6
Licensed Vocational Nurses	64	7
Food Counter/Fountain Wrkrs.	68	8
Real Estate Agents	77	9
Dining Rm. Attendants	78	10
.....	...	...
.....	...	...

[1] The Projections reports for the Anaheim-Santa Ana-Garden Grove and San Diego SMSAs and the Mount Shasta and Sutter Buttes regions give a "Job Opportunity Ratio" rather than a "Percent Change". Planners using these reports can calculate the percent change by dividing the "net demand from industry change" by total employment in 1980 for each occupation. Total employment figures are found in the first column in Table 3. Net demand figures are found in the first column in Table 4.

EXAMINE LISTS

Examine all three lists. The occupations at the top of each of these lists are those which have the greatest number of job opportunities, those which have the fastest growth rate, and those which have the best combination. The "top" occupations from each list warrant further investigation.

The list of greatest importance to most planners is the Job Opportunities list. Programs are typically for occupations which have high employment. The "combined" list will show the high employment occupations which are also growing rapidly. Therefore, these two lists should be most closely examined.

CHOOSE OCCUPATIONS FOR "PLANNING LIST"

The decision as to how many occupations should be added to the "planning list" is a matter of judgment. Planners may wish to take the top 10 or 15 from the Job Opportunities and "combined" lists, or they may wish to scan several ranks of both lists for occupations which seem most feasible for their training institutions.

At this point, the planner has a "planning list" of ideas which reflect the interests of the community and employment trends. It is here that existing programs which are to be evaluated should be added to the "planning list". The next activity translates the ideas on the "planning list" into specific occupations which are related to those ideas.

SECTION THREE:
TRANSLATING THE "PLANNING LIST" INTO OCCUPATIONAL TITLES

This section describes how to convert the "planning list" into occupational titles to assure consistency and comprehensiveness when gathering information.

After identifying interest and needs in the community and projected occupational trends, planners will have a number of new program ideas to explore, as well as existing programs to evaluate. This "planning list", therefore will be made up of three types of ideas: 1) Census-coded occupational categories from the *Projections of Employment* report, 2) existing programs to be evaluated, and, 3) program ideas, based on an assessment of community interests, and a general review of employment trends. This latter group is not uniformly classified and can be at various levels of detail. For example, planners may receive suggestions which are categorical descriptors, such as computer technology or machine trades; functional titles, such as word processing or medical transcribing; or specific job titles, such as legal secretary, dental assistant, or chef. It should be noted, at this point, that planners should strive to solicit suggestions with as much occupational specificity as possible. While the following processes can be carried out even with broad suggestions, the effort is greatly facilitated by well defined program concepts. In order to proceed with the next step of the analysis, planners must accomplish two things. First, they must break down the "planning list" into a comparable level of occupational definition. Second, they must establish which occupations (or more specifically, which skills, knowledge, and aptitudes) will define the potential program. The benefits to planners are a common understanding of the occupational focus of the programs being considered and easier use of available labor market information.

The following process provides a method for grouping "planning list" ideas, organizing them into an existing classification system, and expanding the "planning list" to all possibly related occupations. This assures that the planner will consider the demand for groups of related occupations, rather than only one occupation at a time. This is important because while the demand for one occupation might not warrant starting or continuing a program, the combined demand for several related occupations could indicate a viable program. Later, this list will be reduced to occupations most appropriate for a potential program based on occupational characteristics and employment opportunities. To accomplish this, the "planning

list" must be translated into specific standardized occupational titles and definitions. The *Dictionary of Occupational Titles* (DOT) is the most comprehensive and detailed occupational classification system. This means that DOT-specific occupations can serve as the building blocks for effective program development. This "lowest-common-denominator" approach allows planners to identify the homogeneous characteristics of diverse occupations. DOT titles and codes will also provide a means to access essential information during the labor market analysis process.

The challenge to the planner at this point, then, is to translate the "planning list" into DOT titles and codes. Many methods and tools are available to accomplish this. The means chosen will depend upon the planners' familiarity with available classification systems and the specificity of the initial "planning list". The following steps provide guidelines for the translation of program ideas to specific occupational titles.

GROUP SIMILAR IDEAS/SUGGESTIONS

Loosely organize the "planning list" into like subject matter groups where possible. By identifying like groups for later analysis, the planner will be able to segment the work into manageable units and will have already begun the process of grouping occupations into programs. The following example illustrates a hypothetical "planning list" grouped, where possible, by subject matter.

EXAMPLE 4
"PLANNING LIST" GROUPED BY SUBJECT MATTER

Program ideas	Source of ideas
CLERICAL	
Word Processing	Employer Advisory Committee member
Medical Transcribing	Faculty member
Legal Secretary	Community Assessment Questionnaire
Secretaries, Other	*Projections of Employment* report—Job Opportunities List (EXAMPLE 1)
Bookkeepers, Accounting Clerks	*Projections of Employment* report—Job Opportunities List (EXAMPLE 1)
Secretaries, Legal	*Projections of Employment* report—Combined List (EXAMPLE 3)
FOOD PRODUCTION	
Chef	School Board member
Cooks, Except Private	*Projections of Employment* report—Combined List (EXAMPLE 3)
MISCELLANEOUS	
Computer Technology	Student suggestion
Machine Trades	Employer Advisory Committee member
Dental Assistant	Community Assessment Questionnaire
Sales Workers, NEC*	*Projections of Employment* report—Job Opportunities List (EXAMPLE 1)
Guards	*Projections of Employment* report—Combined List (EXAMPLE 3)

* Not elsewhere classified.

CHOOSE CLASSIFICATION SYSTEM

In order to obtain lists of DOT occupations from the subject matter groups, choose a classification system which has been directly or indirectly related to the DOT. These include:

- Standard Terminology for Curriculum and Instruction in Local and State School Systems—Handbook VI (USOE)
- Guide for Occupational Exploration (GOE)
- Standard Occupational Classification Manual (SOC)
- Census Occupational Classification System
- Classification of Instructional Programs (CIP)
- Occupational Employment Statistics classification system (OES)

NOTE: The Taxonomy of Programs (TOPS) or Classification of Instructional Disciplines (CID), used by many institutions, has not been related to DOT codes. Therefore, these codes must be converted to some other classification system in order to identify DOT codes.

LINK GROUPS TO RELATED CATEGORIES

Taking one subject matter group at a time, link "planning list" ideas to all possibly relevant categories in the classification system chosen. Carefully review all of the categories, as related areas are not always evident.

To illustrate this step, the FOOD PRODUCTION grouping from EXAMPLE 4 has been chosen. This group, which includes the ideas "Chef" and "Cooks, except private," is related to the categories within the Classification of Instructional Programs (CIP) shown in EXAMPLE 5.

NOTE: The CIP was chosen for illustration purposes only; any classification system could have been used in similar fashion.

EXAMPLE 5

CLASSIFICATION OF INSTRUCTIONAL PROGRAMS CATEGORIES RELATED TO "CHEF" AND "COOKS, EXCEPT PRIVATE"

20.04 Food Production, Management, and Services
- 20.0401 Food Production, Management and Services, General
- 20.0402 Baking
- 20.0403 Chef/Cook
- 20.0404 Dietetic Aide/Assisting
- 20.0405 Food Catering
- 20.0406 Food Service
- 20.0407 Food Testing
- 20.0408 School Food Service
- 20.0499 Food Production, Management, and Services, Other

IDENTIFY DOT OCCUPATIONS

Once pertinent categories have been identified, translate these categories to specific DOT occupations. This can be accomplished directly (some classification systems are actually groupings of DOT occupations, e.g., GOE, SOC) or indirectly (some classification systems have been related to the DOT by means of a cross-reference system or "crosswalk" e.g., CIP, USOE, OES, Census)

NOTE: Guide Supplements are available which provide "crosswalks" from the various classification systems listed above to related DOT occupations which have significant employment in California. Planners may identify DOT occupations by using the Supplements as described in the next section, REDUCING THE "PLANNING LIST" TO THE MOST APPROPRIATE OCCUPATIONS.

The planner will notice that the process described above can result in very long lists of occupations to consider. The more specific the original suggestions were, the less of a problem this will be. In any case, the result will be a reasonably comprehensive listing of DOT occupations which may be related to the initial program ideas. The steps which follow will refine the "planning list" to the occupations most appropriate to the training institution.

CHAPTER THREE—LIST REFINEMENT

SECTION ONE—REDUCING THE "PLANNING LIST" TO THE MOST APPROPRIATE OCCUPATIONS 35

SECTION TWO—GROUPING OCCUPATIONS INTO PROGRAMS BY EVALUATING SKILLS, KNOWLEDGE, AND APTITUDES RELATED TO EACH OCCUPATION 38

CHAPTER THREE: LIST REFINEMENT

The first section of this chapter describes methods which refine the "planning list" to those occupations which warrant labor market assessment. The second section discusses grouping occupations into potential programs based on similarity of skills, knowledge, and aptitudes required for the occupations.

SECTION ONE:
REDUCING THE "PLANNING LIST" TO THE MOST APPROPRIATE OCCUPATIONS

The next activity in the analytical process is to reduce the "planning list" to a manageable size and refine the list to those occupations which are appropriate for the individual training institution. The following discussion centers on how to eliminate occupations based on employment size, training time, and math and language skills required. Each criterion can be used to reduce and refine the "planning list" and, hence, reduce the amount of detailed labor market assessment. The following steps describe how to use the criteria available to reduce the list and verify the appropriateness of the occupations to the institution's training guidelines.

REDUCE LIST BY EMPLOYMENT SIZE

Look up categories identified in the step, LINK GROUPS TO RELATED CATEGORIES (page 31) in the appropriate Guide Supplement.[1] The listing of occupations you find will be limited to only those fourth edition DOT occupations which have been projected to have 1,000 or more individuals employed in California in 1985. This level of employment was selected *only* to limit the over 12,000 occupations defined in the DOT to those most commonly employed in California and, therefore, most likely to be relevant to vocational education and employment training providers.

REDUCE LIST BY OCCUPATIONAL CHARACTERISTICS

Using the same Guide Supplement used in the above step, assess the characteristics of the occupations in light of your institution's training objectives. The Guide Supplements list the extent of mathematical development, language development, and specific vocational preparation necessary to perform the duties of each occupation. The juxtaposition of this information to the reduced DOT listing will allow you to refine the list of potential occupations further by eliminating those occupations requiring either:

- greater mathematical or language skills than their potential student population normally possesses, or
- more time in specific vocational preparation than allowed by the training institution's guidelines.

To illustrate the use of the Supplements, the following example shows the DOT occupations related to the CIP categories identified in EXAMPLE 5. The shaded occupations in EXAMPLE 6 are those related to Food Production, Management, and Services (20.04).

The codes in the far right hand columns of the example represent the Specific Vocational Preparation, Math Development, and Language Development required for each occupation and are explained in the Supplements. By using the codes, you may be able to eliminate inappropriate occupations.

[1] Information on how to obtain the Guide Supplements is contained in Appendix E.

EXAMPLE 6

DOT occupations with estimated 1985 statewide employment over 1000 within Classification of Instructional Programs (CIP) Codes

CIP CODE	*DOT CODE*	*TITLE*	*SVP*	*MD*	*LD*
200306	261.357-070	Salesperson, Yard Goods	3	3	4
200306	297.354-010	Demonstrator	3	3	3
200306	297.454-010	Demonstrator, Sewing Techniques	3	3	3
200306	298.081-010	Displayer, Merchandise	5	3	3
200308	162.157-018	Buyer	6	3	4
200308	162.157-022	Buyer, Assistant	6	3	3
200308	185.157-010	Fashion Coordinator	7	4	5
200308	298.081-010	Displayer, Merchandise	5	3	3
200402	313.131-022	Pastry Chef	8	3	3
200402	313.361-038	Pie Maker	6	2	2
200402	313.381-010	Baker	6	2	2
200402	313.381-026	Cook, Pastry	7	3	3
200402	313.687-010	Cook Helper, Pastry	3	1	1
200402	520.384.010	Bench Hand	6	2	2
200402	526.381-010	Baker	7	2	2
200402	526.684-010	Doughnut Maker	5	1	1
200403	187.161-010	Executive Chef	8	4	3
200403	313.131-014	Chef	7	4	4
200403	313.131-026	Sous Chef	8	3	3
200403	313.281-010	Chef De Froid	7	3	3
200403	313.361-014	Cook	7	3	3
200403	313.361-022	Cook, Short Order 1	4	2	3
200403	313.361-026	Cook, Specialty	5	2	2
200403	313.361-030	Cook, Specialty, Foreign Food	6	3	2
200403	313.361-034	Garde Manager	7	2	2
200403	313.381-014	Baker, Pizza	5	2	1
200403	313.381-022	Cook, Barbecue	5	2	2
200403	313.381-034	Ice-Cream Chef	5	2	2
200403	313.671-010	Cook, Short Order 2	3	2	3
200403	315.131-010	Cook, Chief	7	2	3
200403	315.361-010	Cook	6	2	2
200404	245.587-010	Diet Clerk	3	3	3
200404	319.137-010	Food-Service Supervisor	6	3	3
200404	355.677-010	Food-Service Worker, Hospital	2	2	2
200405	162.157-038	Purchasing Agent	7	3	4
200405	187.167-106	Manager, Food Service	7	4	4
200405	319.484-010	Food Assembler, Kitchen	3	2	1
200406	162.157-038	Purchasing Agent	7	3	4
200406	187.167-026	Director, Food Services	7	4	4
200406	187.167-106	Manager, Food Service	7	4	4
200406	211.462-010	Cashier 2	2	3	2
200406	222.387-058	Stock Clerk	4	3	2
200406	310.137-010	Host/Hostess, Restaurant	6	3	4
200406	310.137-014	Kitchen Supervisor	7	3	4
200406	310.137-018	Steward/Stewardess	7	3	4
200406	311.137-010	Counter Supervisor	6	2	3
200406	311.137-014	Waiter/Waitress, Banquet, Head	6	3	3
200406	311.137-018	Waiter/Waitress, Captain	6	2	3
200406	311.137-022	Waiter/Waitress, Head	6	3	4
200406	311.477-010	Car Hop	2	2	2

(Con't.)

EXAMPLE 6 *(Con't.)*

DOT occupations with estimated 1985 statewide employment over 1000 within Classification of Instructional Programs (CIP) Codes

CIP CODE	*DOT CODE*	*TITLE*	*SVP*	*MD*	*LD*
200406	311.477-014	Counter Attendant, Lunchroom or	2	2	2
200406	311.477-018	Waiter/Waitress, Bar	3	2	2
200406	311.477-026	Waiter/Waitress, Formal	3	2	3
200406	311.477-030	Waiter/Waitress, Informal	3	2	2
200406	311.477-034	Waiter/Waitress, Room Service	3	2	2
200406	311.477-038	Waiter/Waitress, Take Out	3	2	2
200406	311.674-010	Canteen Operator	3	1	2
200406	311.674-018	Waiter/Waitress, Buffet	3	2	1
200406	311.677-010	Cafeteria Attendant	2	1	1
200406	311.677-014	Counter Attendant, Cafeteria	3	1	2
200406	311.677-018	Dining Room Attendant	2	1	1
200406	312.474-010	Bartender	3	2	2
200406	312.477-010	Bar Attendant	2	2	2
200406	312.677-010	Taproom Attendant	1	1	1
200406	312.687-010	Bartender Helper	2	1	1
200406	313.381-014	Baker, Pizza	5	2	1
200406	316.684-014	Deli Cutter-Slicer	2	2	1
200406	317.384-010	Salad Maker	5	2	3
200406	317.684-010	Coffee Maker	2	1	1
200406	317.684-014	Pantry Goods Maker	3	2	3
200406	317.684-018	Sandwich Maker	2	1	1
200406	317.687-010	Cook Helper	2	1	1
200406	318.137-010	Kitchen Steward/Stewardess	6	3	4
200406	318.687-010	Kitchen Helper	2	1	1
200406	318.687-014	Scullion	2	1	1
200406	319.137-010	Food-Service Supervisor	6	3	3
200406	319.474-010	Fountain Server	2	2	2
200406	319.484-010	Food Assembler, Kitchen	3	2	1
200406	319.687-010	Counter-Supply Worker	2	1	1
200406	529.684-010	Frozen Pie Maker	2	1	1
200407	029.261-010	Laboratory Tester	5	4	3
200407	029.361-014	Food Tester	5	5	4
200408	187.167-026	Director, Food Services	7	4	4
200408	311.137-010	Counter Supervisor	6	2	3
200408	311.677-010	Cafeteria Attendant	2	1	1
200408	311.677-014	Counter Attendant, Cafeteria	3	1	2
200408	313.131-018	Cook, Head, School Cafeteria	6	3	3
200408	313.381-030	Cook, School Cafeteria	6	2	2
200408	315.361-010	Cook	6	2	2
200408	318.687-010	Kitchen Helper	2	1	1
200408	319.137-010	Food-Service Supervisor	6	3	3
200408	319.687-010	Counter-Supply Worker	2	1	1
200502	270.357-022	Salesperson, Curtains and Drape	4	3	4
200502	781.584-014	Cutter, Hand 1	5	1	2
200502	781.684-014	Cutter, Machine 1	5	2	2
200502	787.682-018	Drapery Operator	4	1	2
200502	787.682-030	Mender	4	1	2

SECTION TWO:
GROUPING OCCUPATIONS INTO PROGRAMS BY EVALUATING SKILLS, KNOWLEDGE, AND APTITUDES RELATED TO EACH OCCUPATION

The final step in the refinement process is to break the remaining occupations down to essential skills, knowledge, and aptitudes. This process will provide information that will help determine the ultimate appropriateness of each occupation to a program grouping and to the training institution. The resources available to aid in this process include the occupational definitions and characteristics described in the *Dictionary of Occupational Titles, California Occupational Guides,* and the *Occupational Outlook Handbook.*

These three sources provide information regarding:

- worker actions, nature of the work performed;
- machines, tools, equipment, or materials used;
- products made, subject matter dealt with, or services rendered;
- working conditions;
- earning potential;
- training or licensure required.

Planners can recognize similarities between occupations, as well as eliminate inappropriate occupations on the basis of this information. Once extraneous occupations are eliminated, the remaining occupations can be clustered into preliminary program groupings.

What remains at this point are groups of occupations which are specifically defined, closely related to each other, and appropriate to the institution's objectives. Now the planner can begin to effectively evaluate the labor market opportunities for these groups.

CHAPTER FOUR—LABOR MARKET ASSESSMENT

SECTION ONE—REVIEWING PUBLISHED LABOR MARKET INFORMATION 43

SECTION TWO—GATHERING ADDITIONAL INFORMATION 44

SECTION THREE—REVIEW FINDINGS WITH EMPLOYER ADVISORY COMMITTEE 45

CHAPTER FOUR: LABOR MARKET ASSESSMENT

This chapter describes the resources and methods necessary to assess the labor market potential of the occupational groupings developed in Chapter Three.

SECTION ONE:
REVIEWING PUBLISHED LABOR MARKET INFORMATION

Numerical analysis of supply and demand has long been problematic; hindered by the multiplicity of classification systems used, the geographical coverage of existing data, the time periods for which data have been available, and the inability to accurately measure the elements involved. The methods that have been designed at the national level are adequate at that level; the components of the supply/demand equation can be reasonably estimated and statistical aberrations tend to balance out. At the local level, the difficulties cannot be overlooked. Smaller numbers adversely affect statistical reliability and data for many supply/demand elements cannot be obtained. With this in mind, this Guide will present a methodology which does not depend on a strict numerical comparison of supply data to demand data. It is, however, an effective means of exploring labor market opportunities for graduates of programs being considered. It is also currently the most feasible method considering limitations in available data and complexities involved in the entire process of labor market analysis.

The process described below can apply effectively to both the assessment of new program possibilities and the evaluation of existing program offerings. It assesses indications of growth trends in demand from a variety of sources: labor market publications, placement success of similar programs, job openings, the local labor market analyst, and local employer input. This information will help program administrators make more informed decisions.

In preparing to begin the analysis, it may be helpful for the planner to develop a file on each group of occupations. The planner will want to analyze one group at a time to facilitate the analysis process. The information from these files will provide the basis of presentations to the Employer Advisory Committee. Throughout the analysis process the planner should maintain an objective perspective on the information by continuously comparing local trends with state and national trends. At this point the planner will also need to determine the appropriate labor market area for future program graduates in order to decide which local information to include in the assessment. As stated in the Introduction, the planner should start with information for the officially defined labor market area and modify it as necessary.

CHECK DOT-BASED LMI

Check for job outlook information in available publications which provide DOT-based information. These include the *Occupational Outlook Handbook, California Occupational Guides,* and, at the local level, *Annual Planning Information* or *Annual Newsletter* and *Labor Supply and Demand.*

CHECK PROJECTIONS OF EMPLOYMENT REPORT

Using Guide Supplement VIII, locate the related occupational categories in the local and statewide *Projections of Employment* reports. This Guide Supplement references DOT occupations to Projections-report line numbers. While the related category in the Projections report will, more than likely, be composed of more than one DOT occupation, the data on employment growth and opportunities can be used as indicators of future occupational trends.

SECTION TWO:
GATHERING ADDITIONAL INFORMATION

CHECK JOB OPENINGS

Contact a sample of local Employment Service and private job placement offices and review classified ads in newspapers to ascertain the number and frequency of job openings in the pertinent occupations.

CHECK WITH AREA LABOR MARKET ANALYST

Call the Employment Data and Research labor market analyst for your area to verify information already collected and solicit additional information or technical assistance. See Appendix D for information on how to contact the labor market analysts.

CHECK SIMILAR PROGRAMS OFFERED LOCALLY

Call training institutions offering similar programs to determine the average number of individuals completing the program, their placement success, and specific skills acquired by completers. You can use the specific DOT descriptions to assure comparability of training when assessing the information gathered.

When evaluating an existing program, you can use information on the placement rate of your own program completers as an indication of the demand for the skills being taught as well as the quality of the program.

SURVEY EMPLOYERS

Survey employers within the labor market to confirm the existence of job opportunities and to verify the precise skills, knowledge, and aptitudes required. Very often new skills required by emerging technologies can be identified by contacting employers.

When carrying out this step, you should attempt to coordinate with other institutions and other organizations, such as the Employment Data and Research Division of EDD to avoid duplication as well as lessen the impact on the employer community. The extent of the survey will depend on the amount of information that was available from other sources. Most of the time, the survey will consist of spot-checking with a few employers to corroborate information obtained earlier. However, an extensive, scientifically-selected sampling of a large number of employers may be necessary to generate information where none is available. In either case, you should attempt to include in the survey the full range of industries which employ the subject

occupations. To accomplish this, the DOT occupations must be linked to related industries. This can be accomplished through the descriptive information in the *Occupational Outlook Handbook* and the *California Occupational Guides.* In addition, the *Conversion Table, DOT Industry Designations—Standard Industrial Classification*[1] associates the DOT with appropriate Standard Industrial Classification codes. The Industry/Occupation Matrix in the *Projections of Employment* report may be helpful in focusing on the industries which include the primary employers of the pertinent occupations. The ED&R area labor market analyst may also be able to provide assistance in identifying or verifying industries which employ specific occupations.

Once industries have been identified, you can select specific employers to include in the survey. To facilitate this process, Guide Supplement I links Standard Industrial Classification codes with possible Yellow Page listings. Using the Supplement, combined with instructors', other experts' as well as your own knowledge of local industry, a list of employers can be developed for each industry. Surveyed employers may also be a good source for identifying other employers in the same industry or employing the same occupations. In each survey instrument, you should be careful to communicate the precise description of the occupations and ask the employer to describe differences between this description and the actual use by the employer. (For a complete discussion of survey methodology, see the *Needs Assessment Handbook.*)

SECTION THREE:
REVIEW FINDINGS WITH EMPLOYER ADVISORY COMMITTEE

In order to assure that the labor market analysis process has been thorough and that reasonable conclusions have been reached, an occupationally-specific Employer Advisory Committee should be established. The Committee will not only review the information developed during the analysis, but also recommend which skills should be emphasized in program design and make suggestions on how to achieve success in placing graduates.

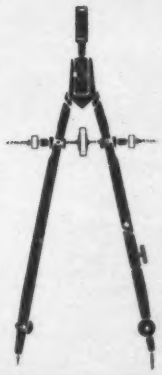
The work that was done during the labor market analysis will allow planners to begin soliciting members for the Committee during the employer survey. An advisory committee should be a group of individuals willing to make a commitment to the institution by regularly attending advisory meetings and being available for specific assistance when needed. If possible, they should represent the range of industries which employ the relevant occupations.

Information should be presented to the Committee in a concise yet complete manner. This will allow meetings to be structured to obtain precisely the feedback necessary in a short time, which is crucial to the productive use of the meeting time. Specific information which the planner will want reviewed includes:

- DOT descriptions for occupations to be related to the program,
- skills, knowledge, and aptitudes necessary for the jobs, and
- indications of labor market opportunities.

As in the employer survey, the planner should carefully note differences between information gathered earlier and that provided by the Employer Advisory Committee. Those differences should be discussed by the Committee and, if possible, resolved at this point.

[1] Employment Security Commission of North Carolina, Employment Service Division, Occupational Analysis Field Center, October 1977.



CHAPTER FIVE—PROGRAM DESIGN

CHAPTER FIVE: PROGRAM DESIGN

The design of a new program, as well as the modification of ongoing programs, can benefit from the information gathered during the analysis process. The labor market information of particular interest to the planner is that which encompasses employer requirements for the skills, knowledge and aptitudes (SKA) required of entry-level workers. Many sources of LMI are available for describing the SKA related to job content. The descriptive material provided by publications such as the DOT, *Occupational Outlook Handbook*, and *Occupational Guides*, can provide the framework for curriculum development and discussions with employers. This information is also used in determining course content, facilities needed, state-of-the-art requirements, and expertise needed by the instructor. Since job content is dynamic, published descriptions may become outdated. Consequently, employer input gathered by surveys or participation on Employer Advisory Committees is vital.

In the situation where published descriptions differ significantly from the information gathered from surveys or Employer Advisory Committees, the planner may need to perform a task analysis before designing programs. This analysis requires detailed observation of workers performing the job or detailed discussion with someone familiar with the job, the methods and equipment used, the materials or services produced, and the traits required. The specific tasks associated with a given job or group of jobs can clarify a specific program design in terms of the course content. In other words, are the specific tasks complex enough to justify multiple courses, or can the program be limited to one course? These questions are judgmental and the program design may in fact vary from one school to another.

Detailed task analysis instructions are available in the DOL publication, *Handbook for Analyzing Jobs*. For further assistance with task analysis, contact Employment Data and Research.

APPENDICES

A—Glossary 52
B—Bibliography 59
C—How to Obtain Publications 63
D—Resource Organizations 65
E—List of Guide Supplements 69

Appendix A

GLOSSARY of TERMS and ACRONYMS

Appendix A

GLOSSARY of TERMS and ACRONYMS

—A—

Aptitude
The potential for acquiring vocational proficiency after appropriate training and experience.

—B—

BLS
See Bureau of Labor Statistics.

Bureau of Labor Statistics
A federal agency, administered by the United States Department of Labor, responsible for gathering, analyzing, and publishing labor force data.

—C—

California Occupational Information Coordinating Committee (COICC)

A state-level interagency committee established to promote the development of a state occupational information system. The COICC is composed of representatives from the California Employment and Training Advisory Council; Council for Private Postsecondary Educational Institutions; Chancellor's Office of the California Community Colleges; and the California Departments of Education, Rehabilitation, and Employment Development.

CBO
See community-based organization.

Census Occupational Classification System
An occupational coding structure developed by the Bureau of the Census for the 1970 census and used in the *Projections of Employment by Industry and Occupation* report. The System groups occupations into about 400 occupational categories.

CIP
See Classification of Instructional Programs.

Classification of Instructional Programs
A classification system developed by the U.S. Department of Education and published in 1981. It "is intended to replace the HEGIS Taxonomy and fill a void in Handbook VI with regards to instructional programs."

COICC
See California Occupational Information Coordinating Committee.

Community-Based Organization
A private, nonprofit organization which is representative of a community or a significant segment of a community, and which provides employment and training services.

Community Classroom
A site or a series of physical locations away from a school site in which occupational training programs are conducted.

Community College
A two-year post-secondary institution offering occupational programs, Associate Degree programs, and lower division classes.

Community Profile
Demographic characteristics of the population of a community such as: age and sex distribution, income and educational level, ethnic background, poverty status, geographic concentration, student enrollment, registered voters, and labor force status.

Crosswalk
A cross-reference system which links programs or occupations within one classification system with programs or occupations within one or more other systems.

Current Population Survey
Monthly household survey of a sample of the civilian noninstitutional population of the United States. The survey provides monthly statistics on employment, unemployment, and related subjects which are analyzed and published by the Bureau of Labor Statistics.

Curriculum
An organized group of courses required for graduation or the attainment of any other predetermined goal in a major field of study.

—D—

Demand
See labor demand.

Demographic Information
This information describes the population within a specified geographic area in terms of number, age, ethnic composition, sex, work status, income, and/or other pertinent characteristics.

Dictionary of Occupational Titles
A classification system which identifies jobs by the nature of the work performed and the demands of such work activities on the worker.

DOE
United States Department of Education

DOL
United States Department of Labor

DOT
See Dictionary of Occupational Titles.

—E—

EAC
Employer Advisory Committee

Economic Indicators
Measurements of fluctuations in basic factors of a community, such as employment, unemployment, hours worked, income, savings, volume of building permits, volume of sales, used to determine overall economic trends.

EDD
See Employment Development Department.

ED&R
Employment Data and Research, a division of EDD (see page 10).

Emerging Occupations
These new occupations are created by the development and commercialization of new technologies (e.g., computer-controlled word processing equipment has created a new clerical occupation, Word Processor).

Employment Development Department
The state agency responsible for paying Unemployment and Disability Insurance; collecting employment related taxes from employers; providing placement and other assistance to job seekers; and collecting, compiling, and publishing labor market and labor force information.

Employment Training
Instruction or other learning experience designed to impart skills, knowledge, or abilities to prepare individuals for suitable employment. Usually the training is short-term with the objective of immediate employment.

Entry-Level Occupation
A job requiring little or no previous work experience, or relatively minimum training or education. Occupations which require a greater amount of education or training have specific entry-level classifications such as "apprentice" or "intern".

ETA
Employment and Training Administration within the United States Department of Labor.

—F—

Follow-up Information
Information regarding the status of program participants after completing/leaving the program used primarily for program evaluation.

—G—

GOE
See Guide for Occupational Exploration.

Guide for Occupational Exploration
A publication of the USDOL which groups DOT occupations by interests and by ability and traits required for successful performance.

—H—

Handbook VI
See "Standard Terminology for Curriculum and Instruction in Local and State School Systems".

—I—

Industry
Firms which have been grouped together according to similar economic activity (see Standard Industrial Classification Manual).

Industry Occupation Matrix
A cross-tabulation of data showing employment by both occupation and industry. The matrix forms a grid which can be used either vertically or horizontally and displays the distribution of occupations within industry

categories. It may also be used as a base for calculating occupational projections within industry.

I-0 Matrix
See Industry-Occupation Matrix

—J—

Job
A group of positions which are identical with respect to their major or significant tasks and sufficiently alike to justify their being covered by a single analysis. There may be one or many persons employed in the same job (as distinguished from "position" and "occupation").

Job Analysis
The process of determining, by observation, interview, and study, the pertinent information relating to a specific job, including such factors as qualifications for employment, relation to other jobs, capability and adjustability of the worker, equipment and material used, education, training, and physical demands and environmental conditions data.

Job Opportunities
Job openings or vacancies for which a hire is expected to occur during a given time period. As used in the Projections of Employment report, these openings or vacancies result from the creation of new jobs or from replacement needs (i.e., due to retirement, disablement, death, or extended withdrawal from the labor force). Not included in the Projections of Employment report are job openings created when a worker leaves a job, but remains in the labor force (e.g., promotion, change of occupation or employer, and/or termination).

Job Search Information
Guidance for a job seeker on how to conduct a job search (e.g., interview techniques, resume writing, personal grooming suggestions, and application completion guidelines).

—L—

LD
See Language Development

Labor Demand
The number of job opportunities expected to occur over a given period of time because of change in employment levels and the need to replace workers who die, retire, emigrate, enter the military, or otherwise leave the local labor force and market.

Labor Force
Includes all persons employed plus those unemployed but available for and seeking work.

Labor Force Status
The condition or situation of an individual with respect to participation in the labor force (e.g., working or seeking work).

Labor Market Analysis
The measurement and evaluation of economic forces as they relate to the employment process in the local labor market area. It considers the many variables that affect labor demand-supply relationships, including such factors as population growth and characteristics, industrial structure and development, technological developments, shifts in consumer demands, volume and extent of unionization and trade disputes, recruitment practices, wage levels, conditions of employment, and training opportunities.

Labor Market Area
See page 11 for a description.

Labor Market Information
See page 10 for a description.

Labor Supply
The number of persons either working, or unemployed and actively seeking work, or who would actively seek work if they believed jobs to be available, may refer to the current situation or to expectations for the future.

Language Development
A characteristic related to DOT occupations which indicates the level of language skill required of a worker to perform the duties of a particular occupation. Specifically, it is a measure of acquired language skills, not necessarily vocationally oriented, such as mastery of an extensive vocabulary; use of correct sentence structure, punctuation, and spelling; or an appreciation of literature. (Also see Mathematical Development and Specific Vocational Preparation.) (Refer to *Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles* for a complete definition.)

LMA
Labor Market Area (See page 11 for a description.)

LMI
Labor market Information (See page 10 for a description.)

—M—

MD
See Mathematical Development.

Mathematical Development
A characteristic related to DOT occupations which indicates the level of computational skill required of a worker to perform the duties of a particular occupation. Specifically, it is a measure of acquired mathematical skills, not necessarily vocationally oriented, such as the ability to solve arithmetic, algebraic, and geometric problems ranging from fairly elemental to dealing with abstractions. (Also see Language Development and Specific Vocational Preparation.) (Refer to *Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles* for a complete definition.)

—N—

NOICC
National Occupational Information Coordinating Committee (see page 9 for a description).

—O—

Occupation
A collective description of a number of individual jobs performed, with minor variations, in many establishments (as distinguished from "job" and "position").

Occupational Classification System
An identification of jobs according to similar significant factors involved in the job or group of jobs.

Occupational Education
Any educational program with an occupational objective. A broad generic term describing vocational education at the postsecondary level, but not limited to any particular delivery system.

Occupational Employment Statistics
Data derived from a survey of industries regarding their occupational composition. The survey was designed by BLS and conducted by State LMI organizations.

OES
See Occupational Employment Statistics.

Occupational Information System
A comprehensive information system including data on current and projected occupational demand, estimates of labor supply by occupation, and data concerning the nature of work, working conditions, promotional opportunities, and entrance requirements.

Occupational Structure
The aggregation of staffing patterns across industries within a labor market. (See staffing pattern.)

—P—

Placement Information
Information used in job placement activities regarding the skills, knowledge, and abilities possessed by individual jobseekers and/or required by an individual employer for a specific job (as distinguished from "follow-up information").

Placement Rate
The ratio of participants placed in training-related employment to the number of participants seeking employment; usually separately measured for each program.

Position
A collection of tasks constituting the total work assignment of a single worker (as distinguished from "job" and "occupation").

Program
Planned sequence of courses, services, or activities designed to meet an occupational objective.

Projections
Estimates of future levels of labor force, employment, job openings, labor supply, and other information using specific methodologies and based on known data and assumptions about future economic conditions and the impact of technological advances.

—R—

Regional Occupational Program/Center (ROP/C)
An occupational training program which meets specific requirements and standards of instruction. The training activity is conducted in a variety of physical facilities and not situated

in a single location or site. An ROP provides occupational instruction related to the attainment of skills and knowledge so that the students are prepared for: 1) gainful employment in the occupational area for which the training was provided, or 2) occupational upgrading so that the students will have the higher skill levels required by new and changing technology and employment practices, or 3) preparation for enrollment in more advanced training programs.

—S—

SIC
See Standard Industrial Classification Manual

Skills (job)
Competencies imparted to or possessed by persons to prepare or make them acceptable for employment (paid or unpaid) in a specific occupation or a cluster of closely related occupations in an occupational field.

SMSA
Standard Metropolitan Statistical Area (See page 11 for further description).

SOC
See Standard Occupational Classification Manual.

Specific Vocational Preparation (SVP)
A characteristic related to DOT occupations which indicates the amount of time required to learn the techniques, acquire information, and develop the facility needed for average performance in a specific job-worker situation. The training may be acquired in a school, work, military, institutional, or a vocational environment. It does not include orientation training required of even fully qualified workers to become accustomed to the special conditions of any new job. (Also see "Language Development" and "Mathematical Development" (Refer to *Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles* for a complete definition.)

Staffing Pattern
The distribution of employment by occupation within an industry or firm. The combination of occupations unique to an industry which is required to produce the goods or services of that industry.

Standard Industrial Classification Manual (SIC)
A systematic grouping of related industrial activities on the basis of certain definite criteria such as the nature of raw materials used, process of manufacture, use of the products, type of operation, type of service performed, or principal product produced, mined, or distributed.

Standard Occupational Classification Manual (SOC)
A classification system developed by the Department of Commerce for cross-referencing and aggregating occupation-related data collected by social and economic statistical reporting programs. The SOC groups DOT occupations by work performed.

Standard Terminology for Curriculum Instruction in Local and State School Systems
A handbook which provides a classification system for curriculum and instruction for educational institutions in both general and occupational programs. Also referred to as Handbook VI and United States Office of Education Code (USOE).

Supply
See labor supply.

SVP
See Specific Vocational Preparation.

—U—

United States Office of Education Code
See "Standard Terminology for Curriculum and Instruction in Local and State School Systems".

USOE
See United States Office of Education Code.

—V—

VEA
Vocational Education Act.

Vocational Education
A planned and systematic sequence of instruction, usually at the secondary level, designed to impart predetermined skills, knowledge, or abilities with respect to designated occupational objectives.

Appendix B

BIBLIOGRAPHY

Appendix B

BIBLIOGRAPHY

The following list includes publications used as references in developing the guide, How to Develop and Use Labor Market Information in Local Occupational Program Planning. The publications which are generally available and useful to local planners are referenced to Appendix C which shows where to order them.

	Reference in Appendix C
1. *Annual Planning Information/Annual Newsletter*, State of California, Employment Development Department, Employment Data and Research Division, Annual.	1
2. *California Labor Supply and Demand*, State of California, Employment Development Department, Employment Data and Research Division, Annual.	1
3. *California License Handbook*, State of California, Department of Economic and Business Development, Office of Small Business Development, 1980.	7
4. *California Occupational Guides*, State of California, Employment Development Department, Employment Data and Research Division.	1
5. *Census—DOT—USOE Cross-Reference, Occupational Code Conversion System, Table I*, (Third Edition DOT) State of California, Employment Development Department, Employment Data and Research Division, 1976.	
6. *Classification of Instructional Programs*, U.S. Department of Education, National Center for Education Statistics, 1981 GPO Stock No. 065-000-00088-1.	2
7. *Conversion Table, DOT Industry Designations—Standard Industrial Classification*, Employment Security Commission of North Carolina, Employment Service Division, Occupational Analysis Field Center, 1977.	6
8. *Conversion Table of Code and Title Changes, Third to Fourth Edition Dictionary of Occupational Titles*, U.S. Department of Labor, Employment and Training Administration, U.S. Employment Service, 1979. GPO Stock No. 029-013-00082-9.	2
9. *Counselor's Guide to Occupational Information*, U.S. Department of Labor, 1980, GPO Stock No. 029-001-02490-8.	2
10. *Dictionary of Occupational Titles*, U.S. Department of Labor, Employment and Training Administration, U.S. Employment Service, Fourth Edition, 1977. GPO Stock No. 029-013-00079-9.	2
11. *Digest of Licensed Occupations*, State of California, Employment Development Department, Employment Data and Research Division, 1979.	1
12. *DOT—Census—U.S.O.E. Cross-Reference, Occupational Code Conversion System, Table II*, (Third Edition DOT) Employment Data and Research Division, 1976.	
13. *Glossary of Labor Market Terminology*, State of California, Employment Development Department, Employment Data and Research Division, 1975.	1
14. *Guide for Occupational Exploration*, U.S. Department of Labor, Employment and Training Administration, U.S. Employment Service, Fourth Edition, 1979, GPO Stock No. 029-013-00080-2.	2
15. *Guidelines for Occupational Program Planning—A Handbook*, California Community Colleges Chancellor's Office, California State Department of Education, Los Angeles Community College District, California High Schools, and ROC/P Districts, 1977.	3
16. *Guidelines for Occupational Program Planning—Evaluation Handbook*, California Community Colleges Chancellor's Office, California State Department of Education, Los Angeles Community College District, California High Schools, and ROC/P Districts, 1977.	3
17. *Guide to the Use of Labor Market Publications*, State of California, Employment Development Department, Employment Data and Research Division, 1980.	1
18. *Handbook for Analyzing Jobs*, U.S. Department of Labor, Manpower Administration, 1972. GPO Stock No. 029-000-00131-6.	2
19. *Jobs in the Private Sector: Uses of Labor Market Information*, U.S. Department of Labor, Employment and Training Administration, Division of Labor Market Information, 1980.	2
20. *Labor Market Information for Private Sector Planning*, U.S. Department of Labor, Employment and Training Administration, Division of Labor Market Information, Second Edition.	
21. *Labor Market Information: Key to Improved CETA Planning*, U.S. Department of Labor, Employment and Training Administration, Division of Labor Market Information, 1979. GPO I.D. No. 1980 620-236/4492 1-3.	2
22. *Labor Market Information Subcommittee Report to the Interagency Committee*, Unpublished, 1981.	

23. *Manpower Information for Affirmative Action Programs*, State of California, Employment Development Department, Employment Data and Research Division, Annual. 1
24. *Manpower Planning Strategy Guide*, California Area Health Education Center System, 1981.
25. *Needs Assessment Handbook*, Franz, Jennifer D., California Community College Chancellor's Office, 1980. 3
26. *Occupational Employment in Manufacturing 1977*, State of California, Employment Development Department, Employment Data and Research Division. 1
27. *Occupational Employment in Trade Industries*, State of California, Employment Development Department, Employment Data and Research Division, 1981.
28. *Occupational Employment in Selected Nonmanufacturing Industries 1978*, State of California, Employment Development Department, Employment Data and Research Division. 1
29. *Occupational Employment Statistics Handbook*, U.S. Department of Labor, Bureau of Labor Statistics, 1979.
30. *Occupational Outlook Handbook*, U.S. Department of Labor, Bureau of Labor Statistics, 1982. GPO I.D. No. 1982-354-356. 2
31. *Occupational Outlook Quarterly*, U.S. Department of Labor, Bureau of Labor Statistics. 2
32. *Planning and Data Use Handbook*, County of Los Angeles, Employment and Training Branch, Division of Research Program Planning and Evaluation.
33. *Projections of Employment by Industry and Occupation 1980-1985*, State of California, Employment Development Department, Employment Data and Research Division. 1
34. *Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles Fourth Edition*, U.S. Department of Labor, Employment and Training Administration, U.S. Employment Service, Fourth Edition, 1981, GPO I.D. No. 1980-301-764. 2
35. Smith, Wesley P., *A History of Vocational Education in California 1900-1975*, California State Department of Education, 1979. 4
36. *Sources of Free Occupational Information*, State of California, Employment Development Department, Employment Data and Research Division, 1977. 1
37. *Standard Industrial Classification Manual 1972*, U.S. Office of Management and Budget, Statistical Policy Division. GPO I.D. No. 4101-0066. 2
38. *Standard Occupational Classification Manual 1980*, U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, GPO I.D. No. 1980-0-332-946. 2
39. *Standard Terminology for Curriculum and Instruction in Local and State School Systems—Handbook VI*; U.S. Department of Health, Education, and Welfare; National Center for Education Statistics, 1970, Superintendent of Documents Catalog No. HE 5.223:23052. 2
40. Starr, Harold, Harold, Merz, and Gale Zahniser, *Using Labor Market Information in Vocational Planning*, The National Center for Research in Vocational Education, The Ohio State University, 1982. Order No. RD228, Price $8.75. 5
41. *Task Analysis Inventories*, Series I, II, III; U.S. Department of Labor, Employment and Training Administration, 1980. GPO I.D. No. 1980-0-302-701,2,&3. 2
42. *Task Analysis Process Manual*, Ventura County Superintendent of Schools, Vocational Education Special Project Unit, 1980.
43. *U.S.O.E.—DOT—Census Cross-Reference, Occupational Code Conversion System, Table III*, (Third Edition DOT) State of California, Employment Development Department, Employment Data and Research Division, 1976.
44. Vocational Education Act of 1963, Public Law 88-210.
45. *Vocational Preparation and Occupations*, Volume I, National Occupational Information Coordinating Committee, 1981.

Appendix C

HOW TO OBTAIN PUBLICATIONS

Appendix C

HOW TO OBTAIN PUBLICATIONS

REFERENCE NUMBER	*PUBLICATION SOURCE*
1	State of California Employment Development Department Employment Data and Research Division (See Appendix D for appropriate address)
2	Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402 (Include Stock Number, Catalog Number, or Identification Number where available)
3	Chancellor's Office of the California Community Colleges 1238 S Street Sacramento, CA 95814
4	State Department of Education 721 Capitol Mall Sacramento, CA 95814
5	The National Center for Research in Vocational Education National Center Publications, Box F 1960 Kenny Road Columbus, OH 43210
6	California Occupational Information Coordinating Committee 1027 Tenth Street, Suite 302 Sacramento, CA 95814 (916) 323-6544
7	Department of Economic and Business Development 1030 13th Street Sacramento, CA 95814

Appendix D

RESOURCE ORGANIZATIONS

Appendix D

RESOURCE ORGANIZATIONS

California Department of Finance
State Census Data Center
1025 P Street
Sacramento, CA 95814
(916) 322-4651

California State Department of Education
721 Capitol Mall
Sacramento, CA 95814
(916) 445-3314

Chancellor's Office of California Community Colleges
1238 S Street
Sacramento, CA 95814
(916) 322-4656

Department of Industrial Relations
Apprenticeship Standards
525 Golden Gate Avenue
P.O. Box 603
San Francisco, CA 94101
(415) 557-2950

Department of Economic and Business Development
1030 13th Street, Suite 200
Sacramento, CA 95814
(916) 322-1394

U.S. Department of Education
National Center for Education Statistics
Statistical Information Office
400 Maryland Avenue SW
Washington, D.C. 20202
(301) 436-7900

U.S. Department of Labor, Region IX
450 Golden Gate Avenue
San Francisco, CA 94102

Bureau of Labor Statistics
(415) 556-3178

Employment and Training Administration
(415) 556-7414

Employment Development Department
Employment Data and Research Division

For publications or technical assistance, contact the LMI group for your area:

Northern Area Labor Market Information Group
7000 Franklin Blvd.
Sacramento, CA 95823
(916) 322-8791

Coastal Area Labor Market Information Group
P.O. Box 7774
San Francisco, CA 94120
(415) 557-3052

Central Area Labor Market Information Group
1525 S. Broadway
Los Angeles, CA 90015
(213) 744-2531

Southern Area Labor Market Information Group
1525 S. Broadway
Los Angeles, CA 90015
(213) 744-2531

Statewide Labor Market Information
800 Capitol Mall, MIC-57
Sacramento, CA 95814
(916) 445-9380

Appendix E

LIST OF GUIDE SUPPLEMENTS

Appendix E

LIST OF GUIDE SUPPLEMENTS

The Guide Supplements consist of eight separate volumes which can be ordered individually to suit the needs of each planner. The supplements were designed to assist planners in using the methods described in the Guide. Supplement I aids in the identification of types of employers found within specific industries. The remaining Supplements provide "crosswalks", identifying significant DOT occupations related to the occupational categories of other classification systems. In addition to the listings of significant DOT occupations, these supplements also identify the amount of Specific Vocational Preparation, Mathematical Development, and Language Development associated with each occupation.

When ordering copies of the Guide Supplements, identify each by the title and volume number. Send or phone your requests to:

COICC
c/o Dept. of Rehabilitation
830 K Street Mall, Room 128
Sacramento, CA 95814
(916) 323-6544

Supplement Title	*Volume Number*
Standard Industrial Classification to Yellow Page Listings	I
Guide for Occupational Exploration codes to DOT codes	II
Standard Occupational Classification codes to DOT codes	III
Projections of Employment report line numbers (Census codes) to DOT codes	IV
Classification of Instructional Program codes to DOT codes	V
Occupational Employment Statistics codes to DOT codes	VI
Handbook VI codes (USOE) to DOT codes	VIII
Summary Listing DOT codes to GOE, SOC, CENSUS, CIP, OES, and USOE codes	VIII

77640—404 8-83 5M CS OSP